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RANGE EXTENSION OF CEANOTHUS SANGUINEUS.

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In the Synoptical Flora and in Piper's Flora of the State of Washington the distribution of Ceanothus sanguineus, Pursh is given as from Brit. Columbia to N. California and Idaho. Howell gives the same range but extends it eastward to Montana. Rydberg, in the Flora of Montana, says it occurs only on the western slope of the main range of the Rocky Mountains. Coulter's Manual, 1st. Ed., credits it to the region of the Missouri and its tributaries but it is not given a place in the 2nd. edition. Pursh, who first described it from material collected by Lewis, gives it as "Near the Rocky Mountains, on the banks of the Missouri"; in so far as this statement by itself is concerned, it might mean either the eastern or western slope of the Rockies or both; I have not access to any records that might determine the point in question. The plant, however, has been considered to belong exclusively to the northwestern region west of the main range of the Rocky Mountains. Its discovery, therefore, in the Keweenaw Peninsula, in Michigan, is of more than local interest. I first collected it in fruit in August, 1886, near Copper Harbor. At that time, being young in years and botanical experience, my main object was to make each species I found agree with some one of those enumerated in Gray's Manual; so it naturally found a resting place in the species cover of C. Americanus where it remained forgotten until 1914. Having in that year had occasion to examine critically my material of the eastern species I at once observed that the Keweenaw plant was not C. Americanus. An investigation convinced me that it was either C. sanguineus or a new species. On a trip to the Lake Superior region

early in July of this year (1915) I found the shrub in full bloom. It proved to be C. sanguineus. I examined a section of territory about half a mile long by as much wide and found the plant to be quite plentiful; the probabilities are that it may be found over a much larger area. It is found in rocky woods, the rock being of trap rock formation; the woods are mostly of evergreen trees but have a good sprinkling of oak, birches, willows, poplars, maples and other deciduous trees and shrubs. It is, of course, indigenous to this region. The possibilities of its having been an introduction from west of the Rockies are so remote as to be negligible. Plants from the eastern slope of the Rockies might be introduced to the Lake Superior region by way of the rivers and streams which find an outlet through Lake Winnipeg, Winnipeg River, the Lake of the Woods, Rainy Lake River, and Pigeon River to Lake Superior but this line of travel would not transport the seed of a plant from the western slope, nor would the Missouri carry the seed from that region to Lake Superior. The same remarks apply to another plant, the Mimulus moschatus, Dougl., which is native to the same regions; it may have been introduced further east as an escape from cultivation but the argument will not apply here, since, so far as I have been able to learn, it was never cultivated in the Copper district of Michigan unless gathered for the purpose from the local native plant. The only probable explanation of such widely separated stations is that the species in preglacial times were more generally distributed but that the ice of the glacial period destroyed intermediate stations.

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